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ABS submission to the inquiry into water use efficiency in Australian agriculture

Australian Bureau of Statistics: environment and agricultural statistics

As Australia's National Statistical Organisation, the Australian Bureau of Statistics (ABS) plays a critical role as a producer and custodian of statistics that inform environmental and agricultural policy in Australia. The ABS produces national, state and sub-state data on: agricultural commodities; land use; land management practices; water use; and a series of environmental-economic accounts.

Water use in Australia

Australia faces significant challenges in ensuring sustainable water supply with a drying climate and increasing demand for water. In addition, the agriculture industry is the largest consumer of water in Australia. In 2014-15, the agriculture industry accounted for nearly 60% of total water consumption. The next largest user of water, the water supply industry, accounted for just 12% of total water consumption. The ABS produces a number of relevant statistical outputs to inform the inquiry on water use efficiency in Australian agriculture, including:

- [Water Use on Australian Farms \(cat.no.4618.0\)](#) – contains data on water use, as well as the sources of water for Australian agricultural businesses.
- [Gross Value of Irrigated Agricultural Production \(cat.no.4610.0.55.008\)](#) – contains data on the gross value of agricultural commodities that are produced with the assistance of irrigation.
- [Agricultural Commodities, Australia \(cat.no.7121.0\)](#) – contains data on land use and farm management, as well as crops and horticulture area and production, and livestock numbers.
- [Land Management and Farming in Australia \(cat.no.4627.0\)](#) – contains data on land management practices being undertaken by Australian agricultural businesses, including fertiliser use, and crop and pasture management.
- [Agricultural Land and Water Ownership \(cat.no.7127.0\)](#) – contains data on the level of foreign ownership of businesses with agricultural land and/or water entitlements in Australia, and the area of agricultural land and volume of water entitlements owned by these businesses.

The ABS also compiles environmental-economic accounts using an internationally recognised framework, the System of Environmental-Economic Accounting (SEEA). The SEEA can be used to monitor water efficiency to support policy and planning by identifying which water use alternatives provide the best economic return while preserving the future capacity of natural resource stocks to deliver value.



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The ABS and the System of Environmental-Economic Accounting (SEEA)

The ABS has worked closely with a range of institutions nationally and internationally on the development and implementation of the SEEA. The SEEA is an accounting framework that records, as completely as possible, the stocks and flows relevant to the analysis of environmental and economic issues, such as water use efficiency, over time.

The SEEA can also be used for:

- deriving a range of indicators concerning environmental-economic issues such as water efficiency, water consumption and depletion of natural resources;
- trend analysis over time through the use of common definitions and standards;
- providing a framework for organising existing data and for assessing its quality and completeness;
- monitoring the state of the environment and its relationship to the economy;
- understanding where and when the benefits and costs of natural resource use accrue; and
- enabling international reporting and comparisons.

Using the SEEA, the ABS produces a number of environmental-economic accounts, including an annual Water Account. The [Water Account, Australia \(cat.no.4610.0\)](#) has been produced since 2008-09, with some data available dating back to the early 1990s, and consists of: supply and use tables (collectively referred to as flow tables) for both physical and monetary volumes of water; and data on water use and consumptive practices of households and key industries including Agriculture.

To address the issue of water use efficiency in Australian agriculture (or alternatively, water intensity), the ABS has produced the [Australian Environmental-Economic Accounts \(cat.no.4655.0\)](#) (AEEA), which combines and expands on data from the Water Account and the Australian National Accounts, and presents a historical perspective on water efficiency and intensity, amongst other environmental indicators, for the agriculture industry. AEEA 2014 found that 'consistent with the change in water intensity observed for the mining industry, the agriculture industry witnessed a steady trend downwards, decreasing 59% over the period 1996-97 to 2011-12. In response to the climatic conditions of the early 2000's (e.g. drought), the agriculture industry became more efficient with water use through infrastructure improvements, technology advancements and changes to crop selection.'

Summary

The availability of high quality data is integral to the assessment of water use efficiency in Australian agriculture. The ABS produces a range of statistics, including environmental-economic accounts, which may be used to inform the assessment of the investment (e.g. such as through the adoption of best



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practice water resource management) in achieving water use efficiencies in Australian agriculture into the future.

The SEEA provides the ideal data framework for monitoring water efficiency in the context of economic productivity and natural resource management.